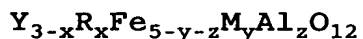


WHAT IS CLAIMED IS:

1. A non-reciprocal circuit element comprising:
  - a magnetic plate;
  - 5 a common electrode disposed at one face of the magnetic plate;
  - a first main segment;
  - a second main segment;
  - a third main segment; the three main segments extending
  - 10 from the periphery of the common electrode in three directions so as to surrounding the magnetic plate, the three main segments being folded to the other face of the magnetic plate and intersecting on the other face with predetermined angles, and
  - 15 a magnet for applying a bias magnetic field, and the magnet opposing to the magnetic plate,
- wherein the temperature coefficient of the saturation magnetization of the magnetic plate is from  $-0.2 \text{ } \%/^{\circ}\text{C}$  to  $-0.1 \text{ } \%/^{\circ}\text{C}$  in a temperature range from  $-35^{\circ}\text{C}$  to  $85^{\circ}\text{C}$ , and the
- 20 temperature coefficient of the residual magnetization of the magnet is from  $-0.20 \text{ } \%/^{\circ}\text{C}$  to  $-0.15 \text{ } \%/^{\circ}\text{C}$  in a temperature range from  $-35^{\circ}\text{C}$  to  $85^{\circ}\text{C}$ .

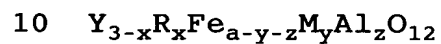
2. The non-reciprocal circuit element according to
- 25 claim 1, wherein the magnetic plate comprises garnet ferrite represented by the formula:



wherein the element R is at least one element selected from

the group consisting of La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, and Lu, the element M is In or a combination of Ca and Sn or a combination of Ca and Zr, and the subscripts x, y, and z representing the stoichiometric ratio satisfy  $0.3 \leq x \leq 1.5$ ,  $0 \leq y \leq 0.6$ , and  $0 \leq z \leq 0.5$ .

3. The non-reciprocal circuit element according to claim 1, wherein the magnetic plate comprises garnet ferrite represented by the formula:



wherein the element R is at least one element selected from the group consisting of La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, and Lu, the element M is In or a combination of Ca and Sn or a combination of Ca and Zr, and the subscripts a, x, y, and z representing the stoichiometric ratio satisfy  $4.75 \leq a \leq 4.95$ ,  $0.3 \leq x \leq 1.5$ ,  $0 \leq y \leq 0.6$ , and  $0 \leq z \leq 0.5$ .

4. The non-reciprocal circuit element according to claim 1, wherein the horizontal length of an overlapped area between the first main segment functioning as an input and the second main segment functioning as an output is 10% or more of the horizontal length of the main segments overlapping on the other face of the magnetic plate.

25 5. The non-reciprocal circuit element according to claim 1, wherein each of the first main segment functioning as an input and the second main segment functioning as an output is connected to matching capacitors and the third main

segment is connected to a matching capacitor and a terminator.

6. A communication device comprising:

a non-reciprocal circuit element according to claim 1;

5 a transmitting circuit connected to the first main  
segment functioning as an input of the non-reciprocal circuit  
element; and

an aerial connected to the second main segment  
functioning as an output of the non-reciprocal circuit  
10 element.